SCOTT'S MILL HYDROPOWER PROJECT

AGREEMENT in PRINCIPLE

1.0 Introduction

1.1. Scott's Mill Hydro, LLC (Applicant) proposes to construct a hydropower facility at the Scott's Mill Dam site on the James River in Lynchburg, Virginia. The Applicant agrees to conditions and structures at the new hydropower facility consistent with this Agreement in Principle (AIP) with the Virginia Department of Game and Inland Fisheries (VDGIF) and the U.S. Fish and Wildlife Service (USFWS) (Collectively, "Parties"). The intention of the Parties is that this Agreement in Principle will serve as the foundation for development of a final settlement agreement that can be submitted to the Federal Energy Regulatory Commission (FERC) as an Offer of Settlement pursuant to Commission Rule 602, as well as forming the basis for a USFWS fishway prescription and Virginia Water Quality Certification. This Agreement is a declaration of intention to negotiate in good faith only, and is not intended to constitute a final binding agreement of the Parties.

1.2. The topics for this document include:

2.0 Fish Passage

3.0 Fish Passage: Upstream and Operations

4.0 Fish Passage: Downstream and Operations

5.0 Minimum Flow Requirements

6.0 Water Quality Standards

7.0 Recreational Enhancements

2.0 Fish Passage

2.1. The Applicant has agreed to provide upstream and downstream passage of American Eel (catadromous) and Sea Lamprey (anadromous). The Parties agree to work cooperatively to plan, design and monitor the conditions after construction as will be described in the final settlement. The goal for fish passage is to achieve safe, timely, and effective fish passage in a manner conducive to maintaining an economically viable hydropower project. The Parties will collaboratively develop fish passage concepts as part of a design review team. This will include the development of the computational fluid dynamics (CFD) study and other aspects of operation to save time and money during the licensing process. The USFWS fish passage engineers will provide assistance with the initial fish passage concepts (i.e. form and function) and review. VDGIF fisheries biologists will also review the fishway plans and provide feedback during design development. Various attributes of the newly constructed project that will need evaluation include:

a. Computational Fluid Dynamics Modeling, including fish passage flow conditions

b. Fish Passage Design Criteria

c. Turbine Operations

d. Downstream Fish Passage Survival (all pathways)

e. Water Quantity and Quality Conditions

2.2. The Parties will coordinate on the design and implementation of monitoring upstream and downstream passage to meet USFWS performance criteria. The Parties expect that both the upstream and downstream passageways for American Eel and Sea Lamprey will be fully successful for each species by applying modern and tested designs. The likely proposal for downstream passage is a design similar to a successful west coast project that provided for safe passage past the turbines and other barriers and hazards. In addition, maintenance and operational protocols for the new project will be developed and documented with annual reporting to VDGIF and USFWS (herein referred to as the Agencies).

3.0 Fish Passage: Upstream and Operations

3.1. The Agencies will prescribe immediate fish passage for American Eel and Sea Lamprey, and reserve their authority for future passage of resident and additional anadromous fish species. Construction of upstream passage for American Eel and Sea Lamprey will take place on both sides of Scott's Mill Dam on the James River during construction of the powerhouse. During design and construction of the hydropower facility, the Parties should consider a future passage structure at the Project for multiple fish species including resident and additional anadromous species (e.g., American Shad and river herring). The design of these facilities should be closely coordinated with the Agencies.

3.2. The turbine unit proposed for the downstream end of the turbine array (far river right) will have the capability to operate between flows of 200 and 500 cfs, whereas all other turbine units will be fixed blade units operating at about 500 cfs. When flows increase above the hydraulic capacity of the powerhouse and fish passage facility, excess flow may pass over spillway. This does not preclude the need to provide a continuous flow of water (veil) over the spillway to maintain downstream habitat and water quality.

3.3. The Applicant, with the Agencies cooperation, will confirm safe, timely and effective upstream fish passage at the Project with a 95% passage efficiency rate required for upstream passage of eel within close proximity to the eelway. The Parties agree to develop a plan that allows the Applicant to adjust attraction flow, to adjust orientation of the fish passage entrance or to make other modifications necessary to improve fish passage conditions to achieve this goal. Suitable testing measures will include radio telemetry or netting of marked eels; and later with a permanently installed eel-counting device for long term monitoring. The Agencies will receive results from these fish passage evaluations each year during testing.

3.4. The Applicant will install upstream multi-species passage facilities for resident and anadromous fish species within 10 years of receiving a License. However, the need for a multi-species passage facility may arise within the first ten years of operations depending on what fish species arrive downstream of Scott's Mill Dam. Should American Shad reach Scott's Mill Dam earlier than, or after, the first 10 years of project operation, upstream passage implementation will occur immediately. Additionally, VDGIF annually samples the James River at multiple locations downstream from the Project in the fall. If juvenile American Shad show up in these samples, that will serve as an indicator that these fish are present up to the Project, and should result in upstream passage implementation. Juvenile American Shad have occurred as far upstream as Cartersville, VA, but this is still a considerable distance downstream of Scott's Mill Dam. The VDGIF sampling site at Scottsville, VA is about 110 km downstream from Scott's Mill Dam. The Agencies agree that the capture of juveniles anywhere from Scottsville, or upstream, will result in a reasonable conclusion that American Shad passage is necessary at Scott's Mill Dam. Should one or more juvenile American Shad be sampled at or upstream of Scottsville, the Parties will consult on the need for and timing of upstream passage. This may trigger additional sampling. If 12 juveniles or more, (either in one year or in smaller numbers over 3-4 years) or any amount of adults are sampled, additional fish passage should be triggered.

The longer-term plan envisioned for upstream passage may use turbine flows to attract fish to the fishway entrance. A nature-like fishway using the Waterworks Canal will receive full consideration, as well as other options, for upstream passage. Evaluation efforts may use hydraulic modeling (i.e. physical or CFD models) to identify the optimal entrance location and orientation for the upstream passage facility at the project site.

4.0 Fish Passage: Downstream and Operations

4.1. Daniels Island is a large island that is just upstream of Scott's Mill Dam. Most of the water for power generation will come from the main channel of the James River that is river left of Daniels Island (looking downstream). Project plans will focus hydraulic conditions from the downstream portion of Daniels Island toward the proposed powerhouse head pond that will be just downstream of the existing arch section of Scott's Mill Dam (river right). The Project will remove most of the arch section of Scott's Mill Dam leaving only the bottom layer of stones. A flow velocity of less than 2 feet per second adjacent to operating turbines be maintained during the various combinations of powerhouse generation (i.e., 400-4500 cfs) from the arch section and into the head pond.

4.2. The Applicant, with the Agencies cooperation, will confirm safe, timely and effective downstream fish passage at the Project with at least a 95% survival rate requirement for downstream passage of all species. The Parties agree to develop a plan for the Applicant to adjust attraction flow, to adjust the orientation of fish passage entrances, to adjust guidance structures or to make other modifications as necessary to improve the conditions of fish passage structures in order to meet performance criteria for upstream

to downstream survival. Agencies recommend a minimum downstream bypass flow criteria of 5% of station capacity. The expected method for evaluation is a radio telemetry routing study and balloon-tag survival study (or equivalent) with latent mortality testing for 48 hours. Downstream and bypass flow criteria will be noted in the settlement agreement.

4.3. The Parties will consider all available techniques and work cooperatively to determine what adjustments to the downstream fishway bypass facility and guidance structure are possible to improve fish passage at the Project. The Applicant is proposing the downstream fish passage facility at the downstream end of the powerhouse (river right, south). In addition, at the upstream end of the head pond and fish passage area, flow approach velocities will be modeled to achieve less than two feet per second adjacent to the operating turbines during the various combinations of powerhouse generation (i.e., 400-4500 cfs). Other proposed downstream fish passage facility components include the conveyance structure, receiving waters, and guidance structure, which have their own set of criteria. Hydraulic modeling (i.e. physical or CFD models) will be needed to design or adjust downstream passage facility components at the project site.

4.4. The proposed maximum approach velocity at each turbine is less than two feet per second during the various combinations of powerhouse generation (i.e., 400-4500 cfs) to avoid impingement and entrainment. As part of the Project start-up evaluation, downstream fish passage survival testing will verify all aspects of fish passage.

5.0 Minimum Flow Requirements

5.1. Calibration of the depth of the proposed continuous veil of water over the spillway will occur once the powerhouse is operating. The Parties expect the height of the veil will be at least one inch based upon the results of the flow dynamics and State of Virginia water quality standards. Given that the flow dynamics below Scott's Mill Dam will likely change significantly with the installation and operation of the powerhouse, the Parties agree to undertake a cooperative adaptive management approach to determine an appropriate amount of flow over the dam (i.e., veil height). This approach will combine a wetted perimeter study with a demonstration flow assessment involving the Parties in order to ascertain a flow regime appropriate for maintaining aquatic habitat downstream of the dam. The goal of this flow regime will be to maintain 90% of current habitat conditions or wetted perimeter, while also providing suitable habitat quality based upon a flow assessment. The Parties agree to work towards development of an adaptive management plan incorporating these approaches with sufficient detail and limits to make it suitable for inclusion by FERC in a license.

6.0 Water Quality Standards

6.1. The installation and operation of the powerhouse has the potential to alter water quality below Scott's Mill Dam in unpredictable ways. These potential alterations are most likely to occur under low flow conditions. Thus, the Applicant agrees to undertake a limited water quality study, focusing on changes in temperature and dissolved oxygen,

under low flow conditions once the powerhouse is operational. The study will compare the upstream ambient temperature and dissolved oxygen with downstream conditions during normal operations at 90% (+/- 5%) exceedance flows. The Agencies agree that water quality alterations of ≤ 0.5 C and < 0.5 ppm are acceptable goals. The Parties also agree to cooperate on the design and implementation of the water quality study. Should the water quality study reveal unacceptable changes in temperature or dissolved oxygen, the Parties agree to utilize an adaptive management approach to rectifying these water quality issues via operational changes, specifically increasing the amount of water passing over the dam or other options that can achieve the water quality standard. The Parties agree to work towards development of an adaptive management plan incorporating these approaches with sufficient detail and limits to make it suitable for inclusion by FERC in a license.

7.0 Recreational Enhancements

7.1. Currently, no developed recreational facilities are available to the public within the project boundary, so the Applicant, with the cooperation of the Agencies, agrees to develop the following recreational access facilities:

a. Boating access facility in the Scotts Mill Dam pool – this will entail a hardened ramp suitable for use by trailer-launched boats, adequate parking to meet the demand, and suitable signage.

b. Bank fishing access downstream of Scotts Mill Dam – this will entail a pier, platform, or walkway below the dam, adequate parking to meet user demands, and suitable signage.

c. Canoe/kayak portage around Scotts Mill Dam – this will entail suitable egress/ingress points, a developed walkway over/around the dam, and suitable signage.

Should the development of any of these proposals prove to be infeasible, the Parties will evaluate alternative recreational improvements (on a similar scale) in lieu of the proposals listed. The Parties will cooperatively determine the location and design of these facilities. Construction and maintenance will be the responsibility of Applicant, with consultation among the Agencies.

Signed: Date: 02-10-2020

Mark Fendig, Principal

2-13-2020

Ryan Brown, Executive Director

Virginia Department of Game and Inland Fisheries

U.S Fish and Wildlife Service

2/21/20